6. Schematic Diagrams

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VCR Main PCB

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Note

For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components. Use only the same type.

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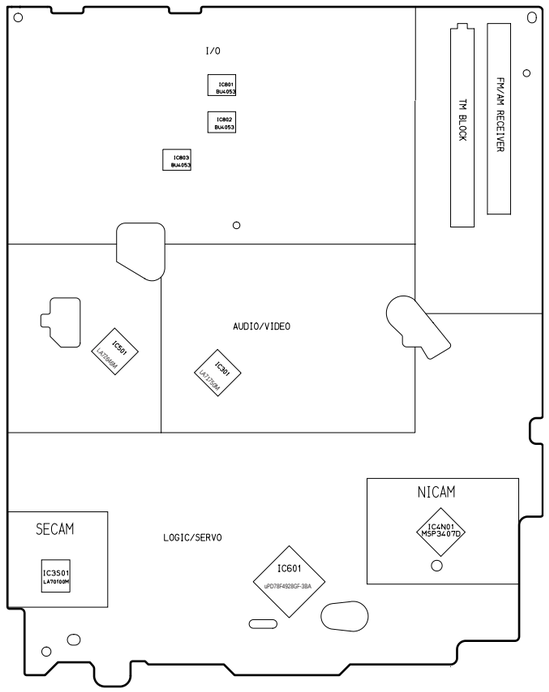
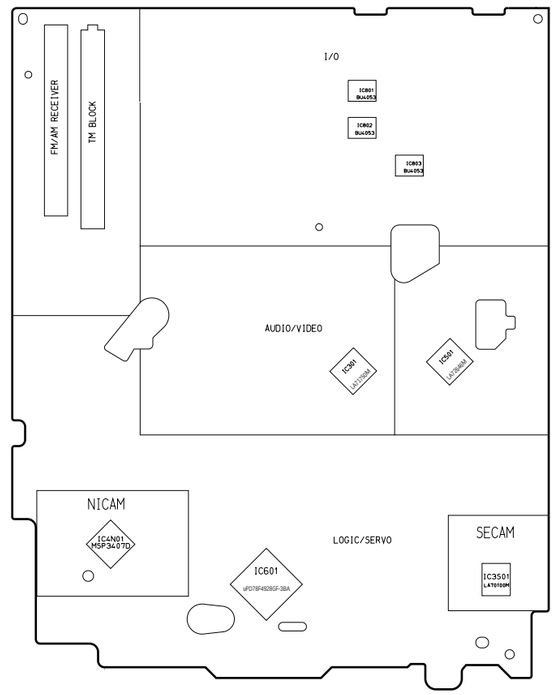
◆ Block Identification of Main PCB

VCR MAIN PCB

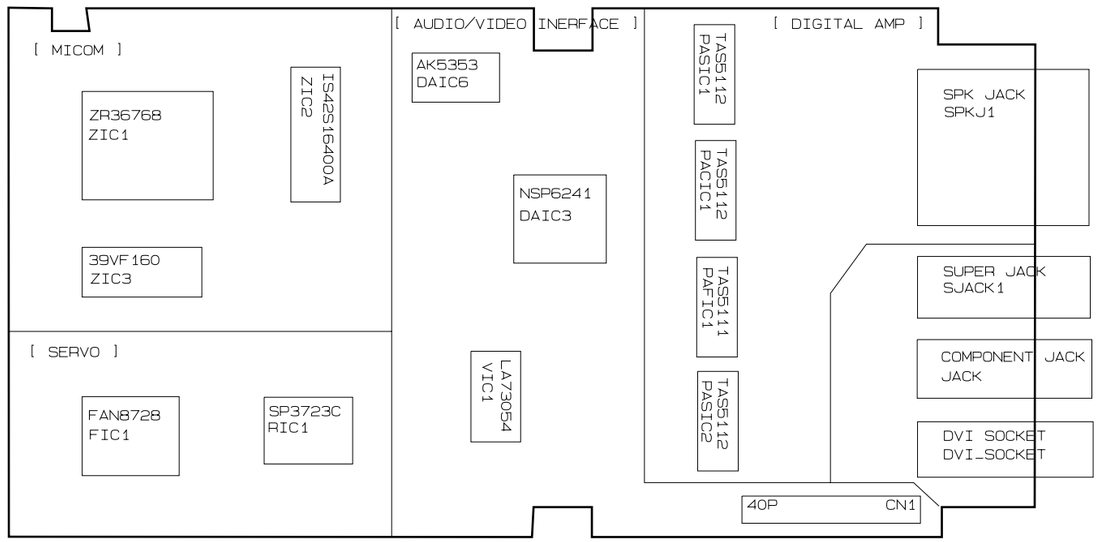


<Component Side>



<Conductor Side>

DVD MAIN PCB



<Component Side>

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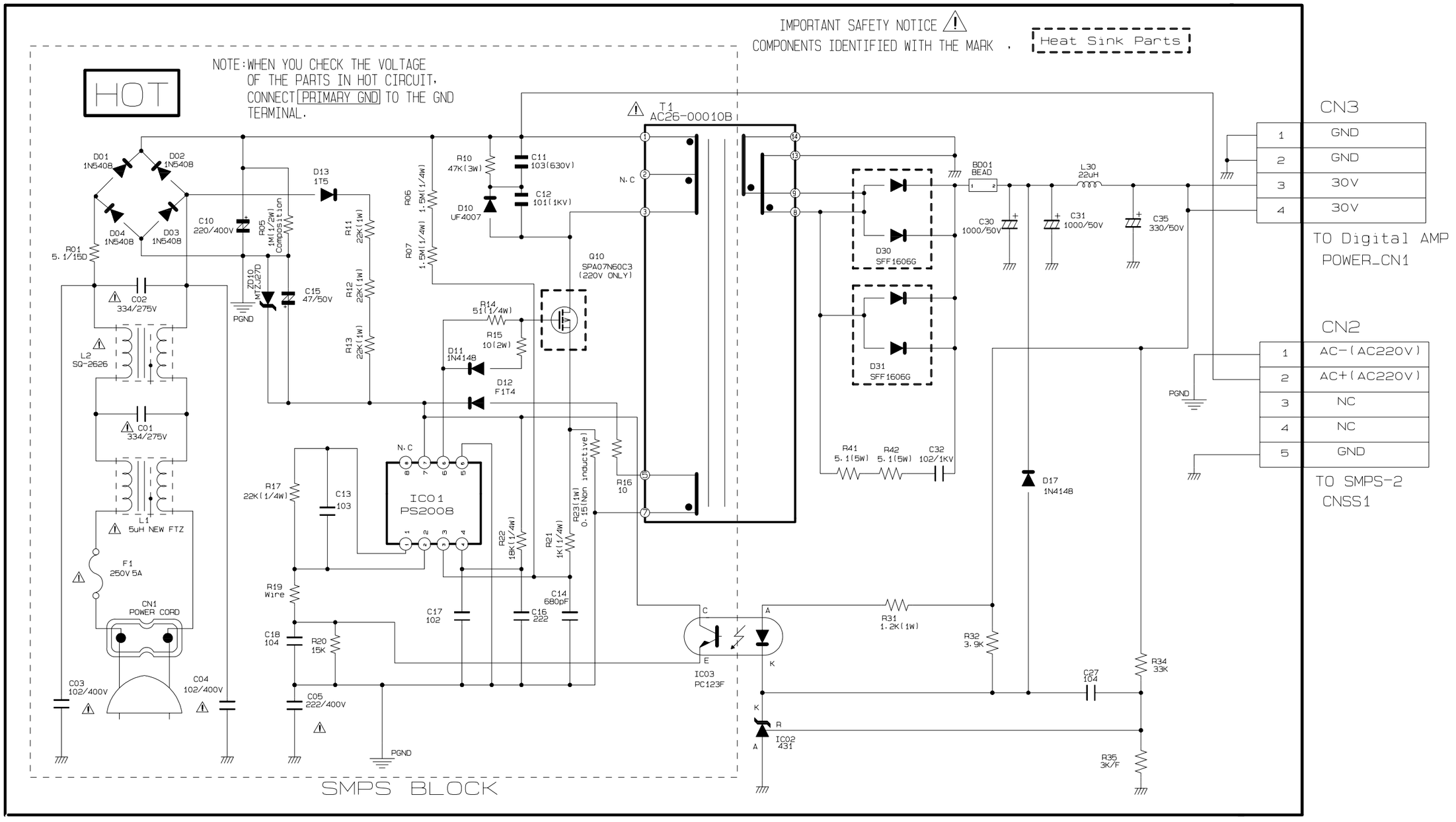
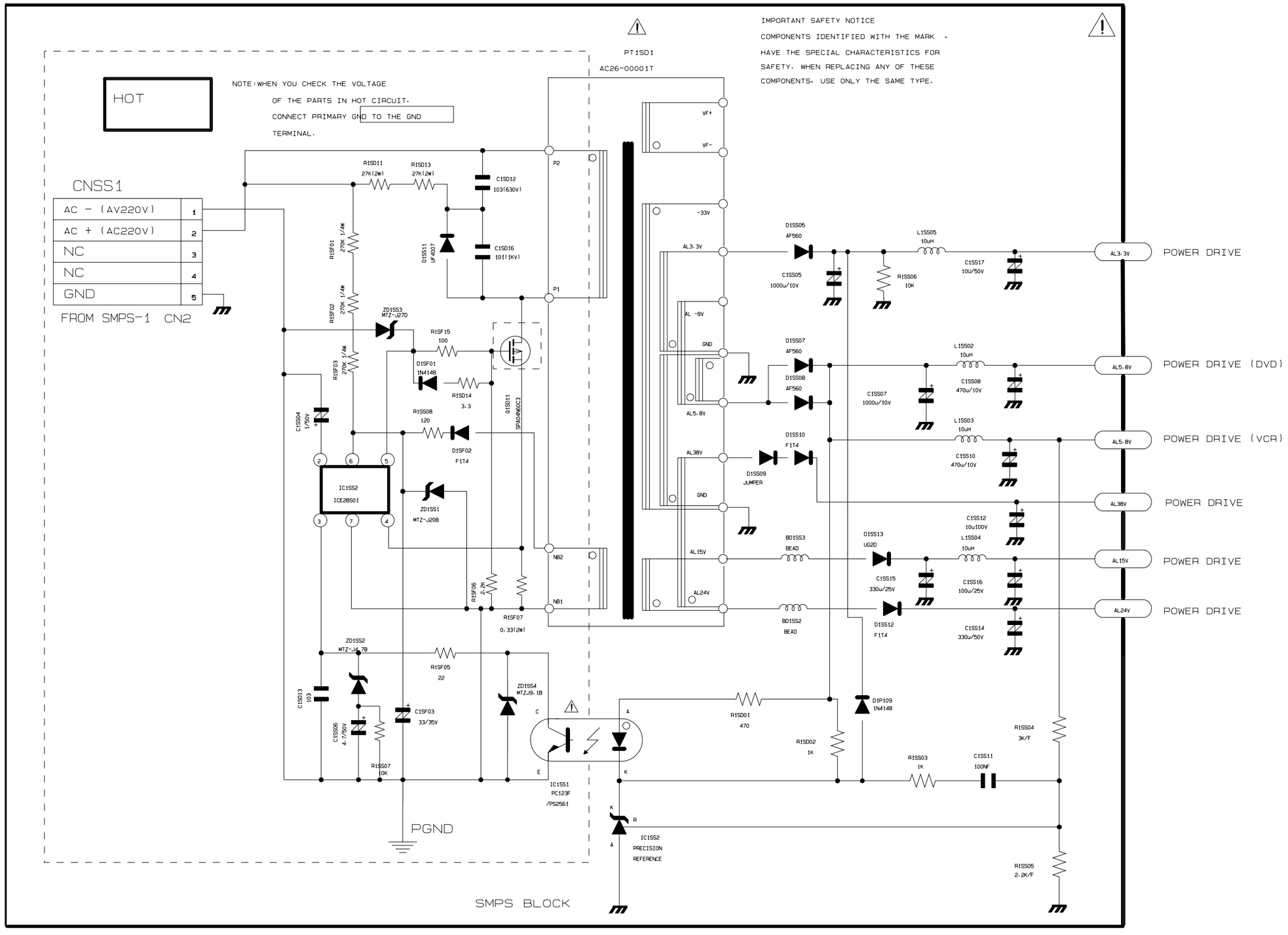
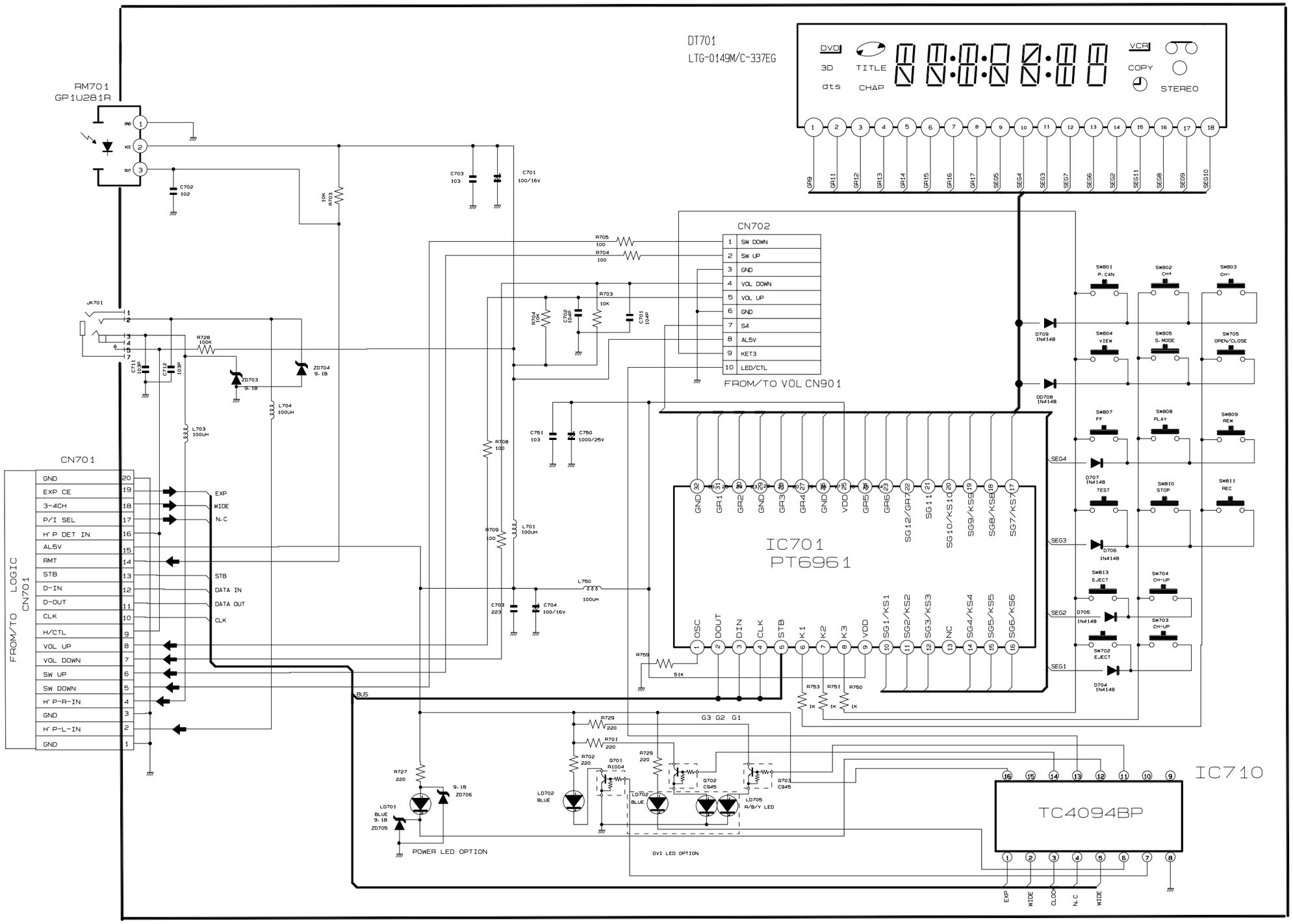
6-1 S.M.P.S.-1


IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE MARK .
Heat Sink Parts
HOT
NOTE:WHEN YOU CHECK THE VOLTAGE OF THE PARTS IN HOT CIRCUIT, CONNECT PRIMARY GND TO THE GND TERMINAL.
T1 AC26-00010B
D01 1N5408
D02 1N5408
D03 1N5408
D04 1N5408
D13 1T5
R01 5.1/15D
C10 220/400V
R05 1M(1/2W) Composition
ZD10 MTZJ27D
C15 47/50V
PGND
C02 334/275V
L2 SG-2626
C01 334/275V
L1 5uH NEW FTZ
F1 250V 5A
CN1 POWER CORD
C03 102/400V
C04 102/400V
R06 1.5M(1/4W)
R07 1.5M(1/4W)
R10 47K(3W)
C11 103(630V)
C12 101(1KV)
D10 UF4007
N.C
Q10 SPA07N60C3 (220V ONLY)
R14 51(1/4W)
R15 10(2W)
D11 1N4148
D12 F1T4
R11 22K(1W)
R12 22K(1W)
R13 22K(1W)
R17 22K(1/4W)
C13 103
ICO1 PS2008
R22 18K(1/4W)
R21 1K(1/4W)
R23(1W) 0.15(Non inductive)
R16 10
R19 Wire
C18 104
R20 15K
C17 102
C16 222
C14 680pF
C05 222/400V
PGND
SMPS BLOCK
C
A
E
K
IC03 PC123F
R31 1.2K(1W)
R32 3.9K
C27 104
R34 33K
K
R
A
IC02 431
R35 3K/F
BD01 BEAD
L30 22uH
C30 1000/50V
C31 1000/50V
C35 330/50V
D30 SFF1606G
D31 SFF1606G
R41 5.1(5W)
R42 5.1(5W)
C32 102/1KV
D17 1N4148
CN3
1 GND
2 GND
3 30V
4 30V
TO Digital AMP POWER_CN1
CN2
1 AC-(AC220V)
2 AC+(AC220V)
3 NC
4 NC
5 GND
TO SMPS-2 CNSS1

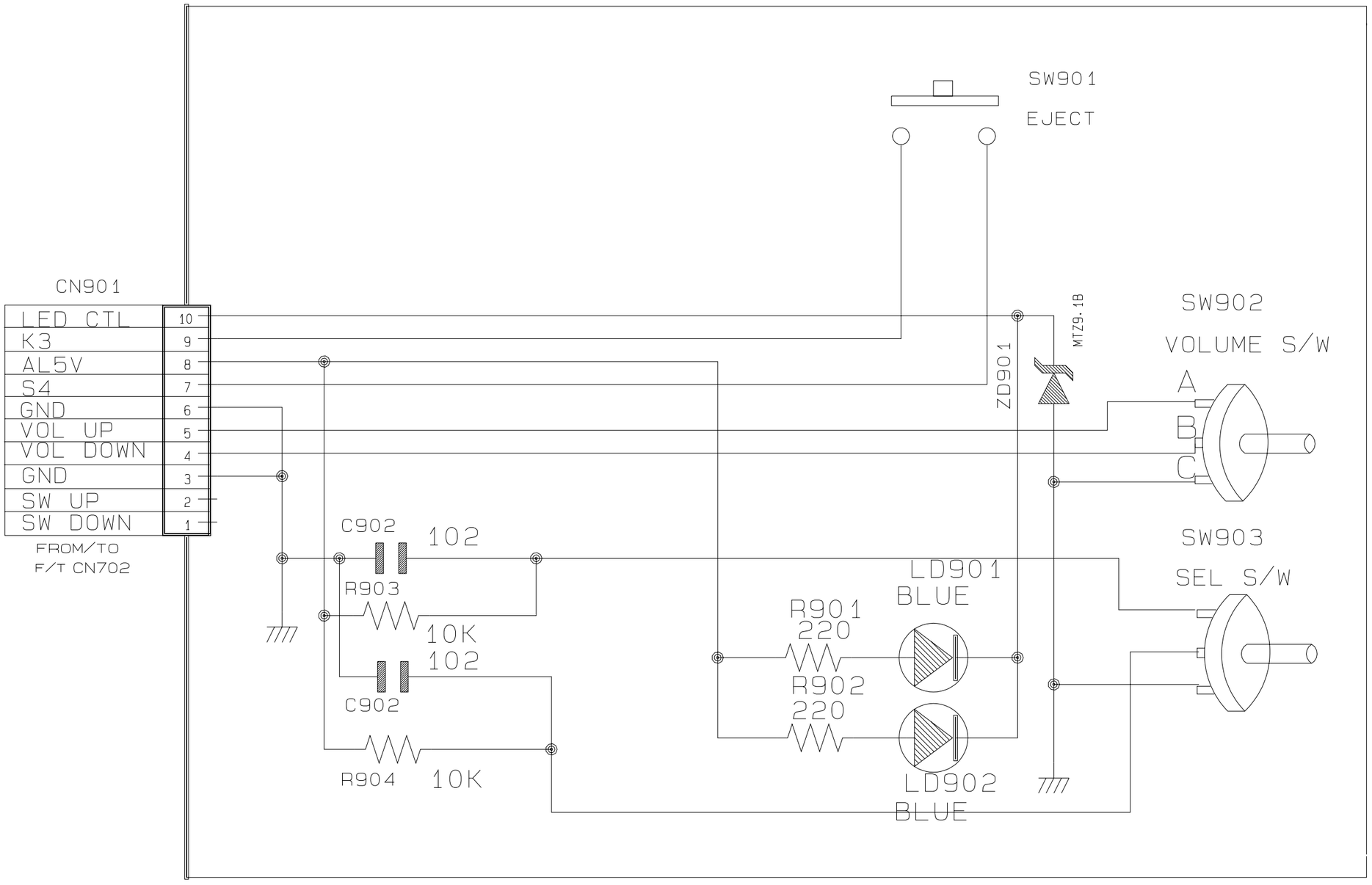
6-2 S.M.P.S.-2


IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE MARK .
HAVE THE SPECIAL CHARACTERISTICS FOR
SAFETY. WHEN REPLACING ANY OF THESE
COMPONENTS. USE ONLY THE SAME TYPE.
HOT
NOTE:WHEN YOU CHECK THE VOLTAGE
OF THE PARTS IN HOT CIRCUIT.
CONNECT PRIMARY GND TO THE GND
TERMINAL.
PT1SD1
AC26-00001T
CNSS1
AC - (AV220V) 1
AC + (AC220V) 2
NC 3
NC 4
GND 5
FROM SMPS-1 CN2
R1SD11 27K(2W)
R1SD13 27K(2W)
C1SD12 103(630V)
C1SD16 101(1KV)
D1SS11 GP40D7
R1SF01 270K 1/4W
R1SF02 270K 1/4W
R1SF03 270K 1/4W
ZD1SS3 MTZ-J27D
R1SF15 100
D1SF01 1N4148
R1SD14 3.3
C1SD04 1/50V
R1SS08 120
D1SF02 F1T4
GP40D3C3
IC1SS2 ICE2BS01
ZD1SS1 MTZ-J20B
R1SF06 2.2K
R1SF07 0.33(2W)
NB2
NB1
ZD1SS2 MTZ-J4.7B
R1SF05 22
C1SD13 103
C1SS06 4.7/50V
C1SF03 33/35V
ZD1SS4 MTZJ9.1B
R1SS07 10K
IC1SS1 PC123F /P52561
PGND
SMPS BLOCK
P2
P1
VF+
VF-
-33V
AL3.3V
AL -8V
GND
AL5.8V
AL38V
GND
AL15V
AL24V
D1SS05 AF560
C1SS05 1000u/10V
L1SS05 10uH
R1SS06 10K
C1SS17 10U/50V
D1SS07 AF560
D1SS08 AF560
C1SS07 1000u/10V
L1SS02 10uH
C1SS08 470u/10V
L1SS03 10uH
D1SS10 F1T4
D1SS09 JUMPER
C1SS10 470u/10V
C1SS12 10u/100V
L1SS04 10uH
BD1SS3 BEAD
D1SS13 UG2D
C1SS15 330u/25V
C1SS16 100u/25V
D1SS12 F1T4
BD1SS2 BEAD
C1SS14 330u/50V
D1P109 1N4148
R1SD01 470
R1SD02 1K
R1SS03 1K
C1SS11 100NF
R1SS04 3K/F
R1SS05 2.2K/F
IC1SS2 PRECISION REFERENCE
AL3.3V
AL5.8V
AL38V
AL15V
AL24V
POWER DRIVE
POWER DRIVE (DVD)
POWER DRIVE (VCR)
POWER DRIVE
POWER DRIVE
POWER DRIVE

6-3 Function-Timer



6-4 Volume



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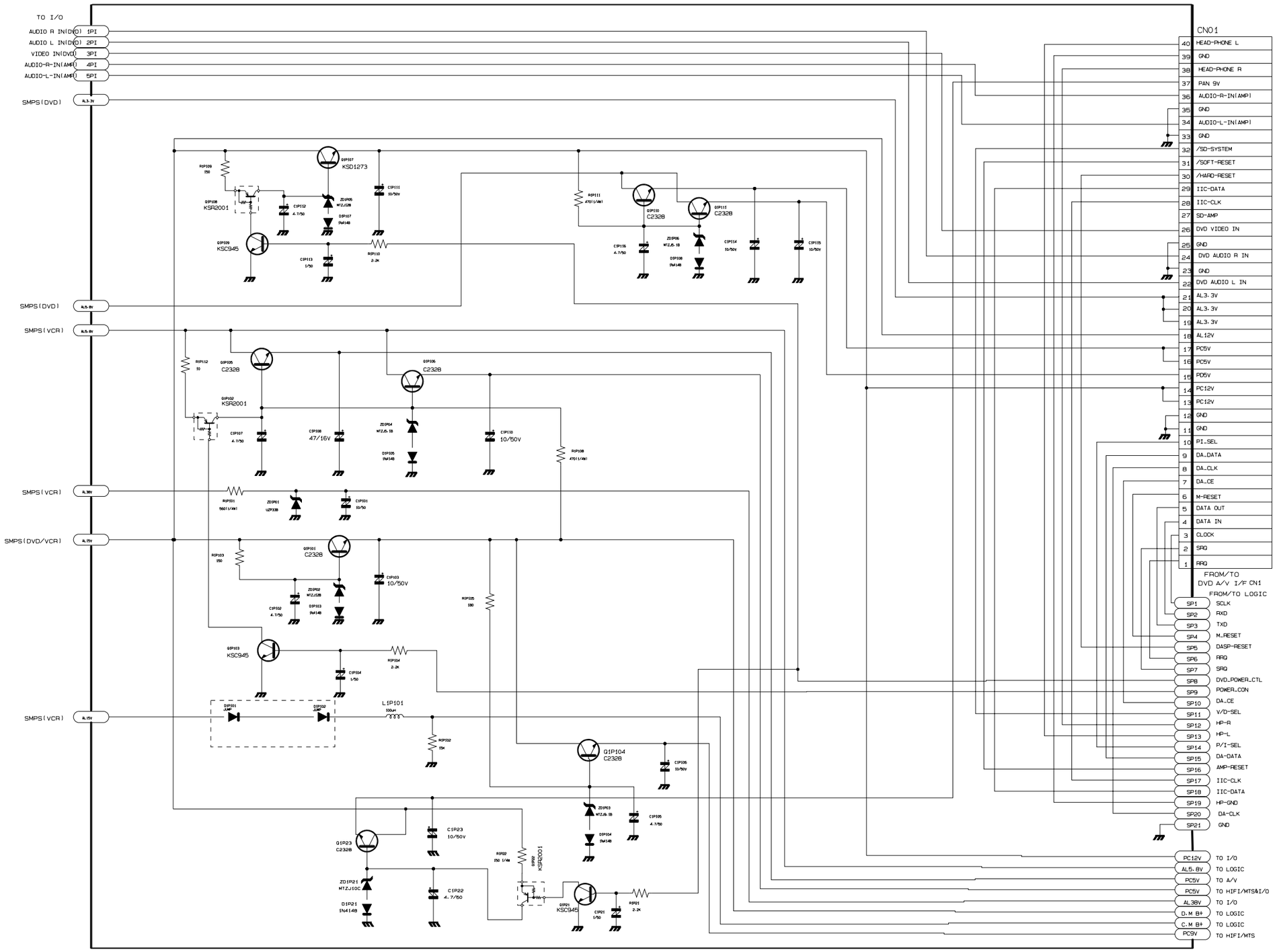
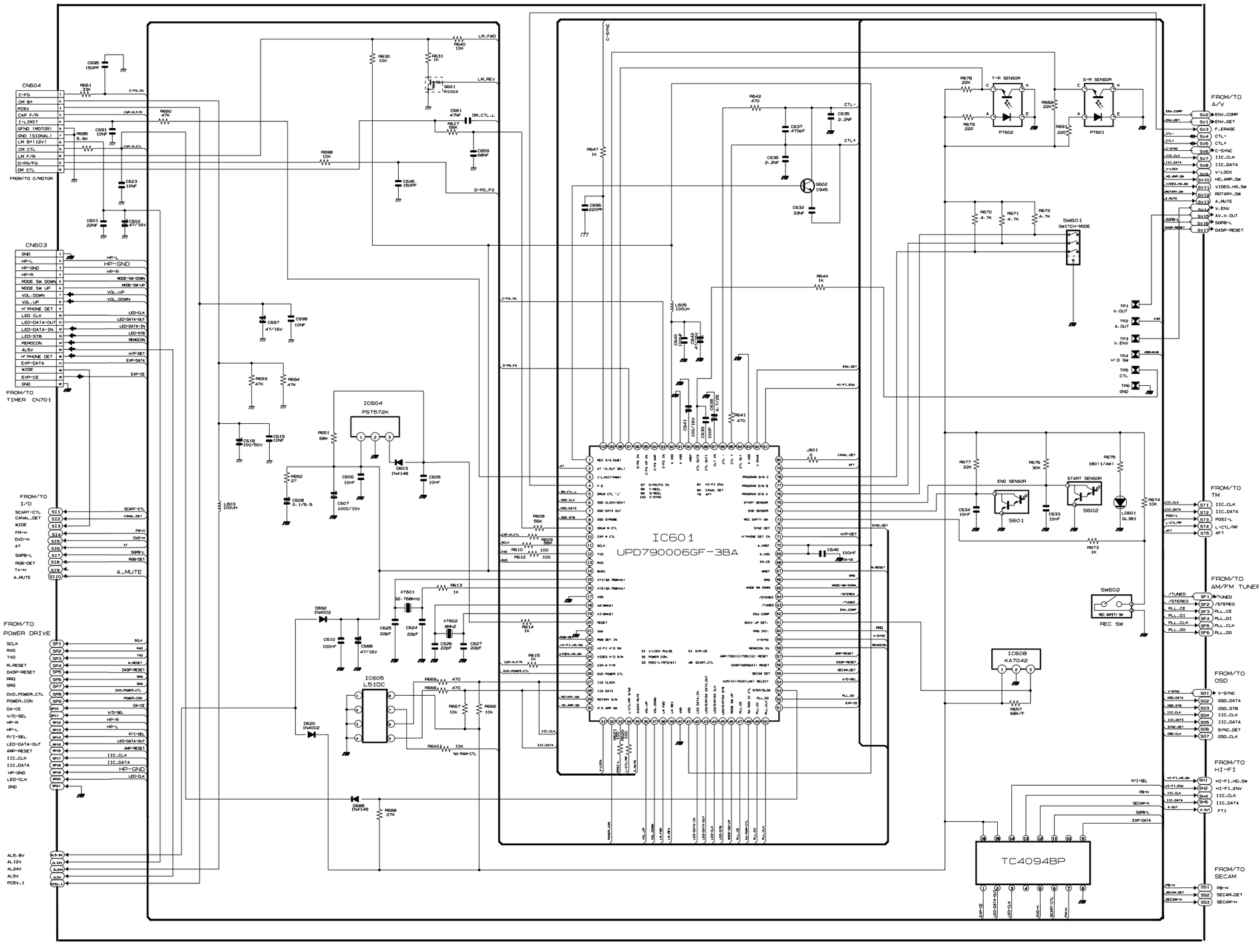
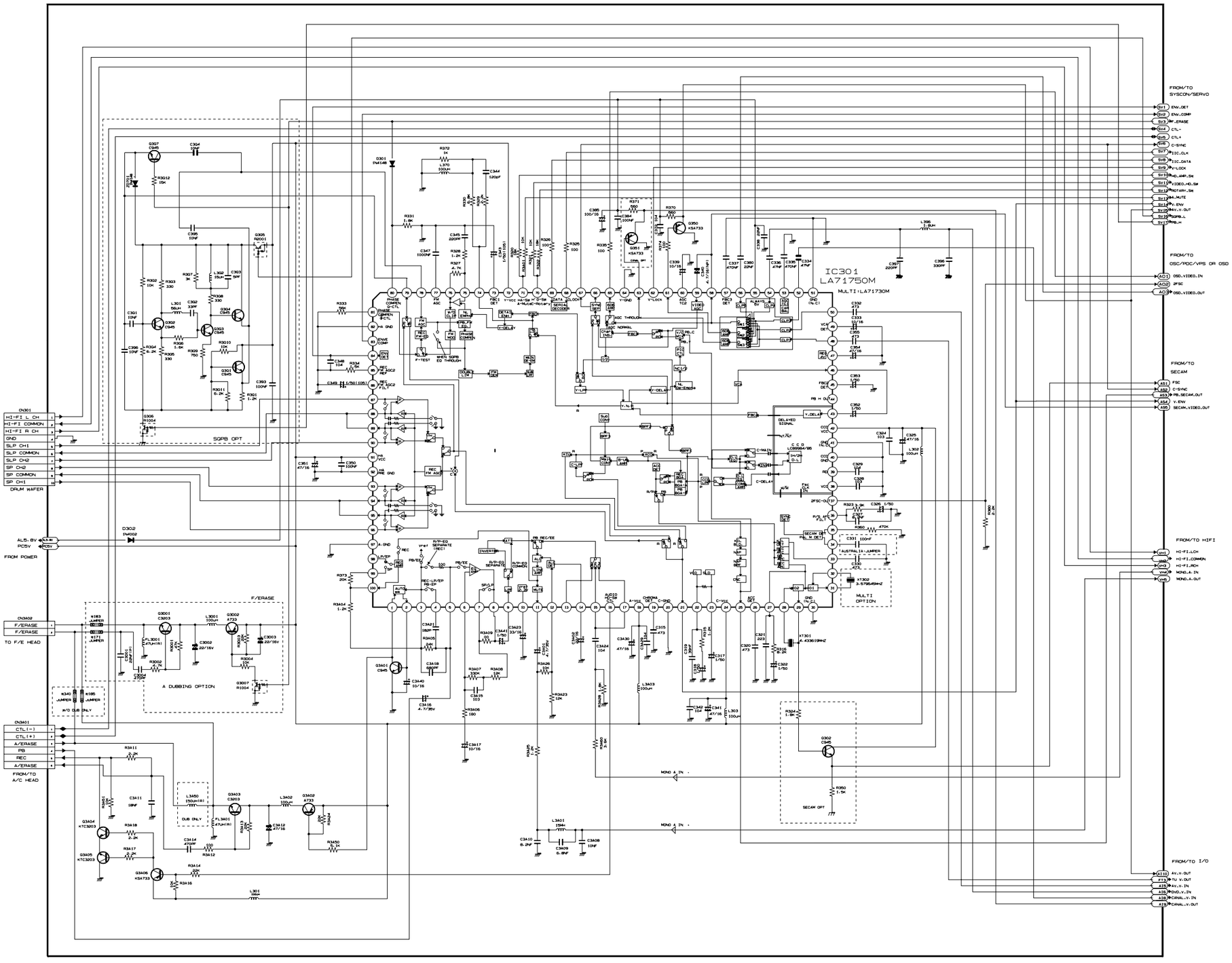
6-5 Power Drive



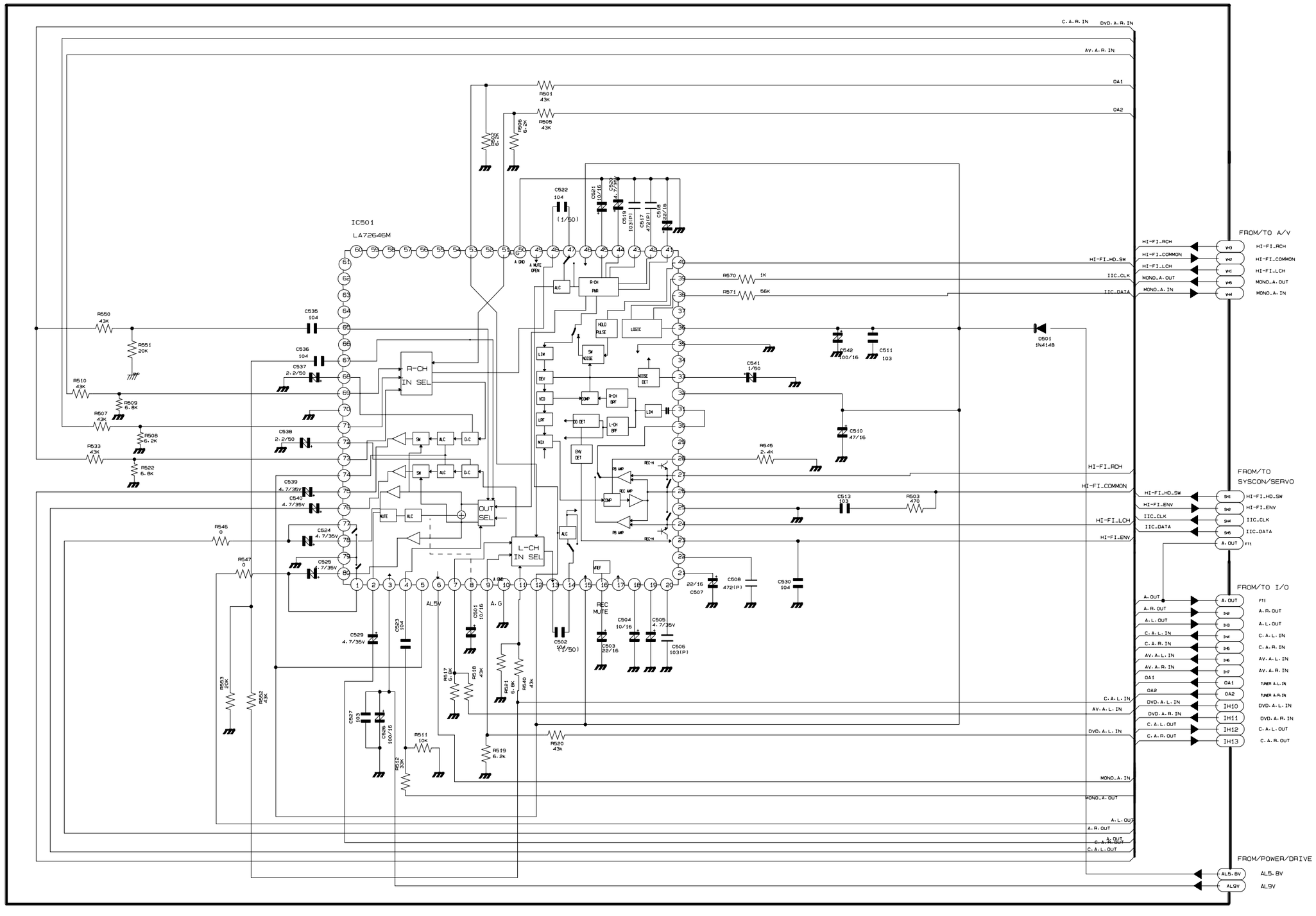
6-6 Logic


IC601
UPD790006GF-3BA
IC604
PST572K
IC605
L51DC
IC608
KA7042
TC4094BP
SW501
SWITCH-MODE
SW502
REC SW
T-R SENSOR
S-R SENSOR
END SENSOR
START SENSOR
PT602
PT601
S601
S602
CN504
CN603
FROM/TO C/MOTOR
FROM/TO TIMER CN701
FROM/TO I/O
FROM/TO POWER DRIVE
FROM/TO A/V
FROM/TO TM
FROM/TO AM/FM TUNER
FROM/TO OSD
FROM/TO HI-FI
FROM/TO SECAM
HP-GND
A_MUTE
C-SYNC
D-PG_FG
CTL-
CTL+
ENV_DET
V-SYNC
SYNC_DET
REMOCON
SCART-CTL
CANAL_DET
WIDE
FM-H
DVD-H
AT
SQPB-L
RGB-DET
TV-H
AL-5.8V
AL 12V
AL24V
AL5V
PCSV_1
SCLK
RXD
TXD
M_RESET
DASP-RESET
SRQ
DVD_POWER_CTL
POWER_CON
DA-CE
V/D-SEL
HP-R
HP-L
R/I-SEL
LED-DATA-OUT
AMP-RESET
IIC_CLK
IIC_DATA
LED-CLK
GND
LM_FWD
LM_REV
DM_CTL_L
CAP_M.F/R
CAP_M.CTL
R/I-SEL
PB-H
SECAM-H
SQPB-L
EXP-DATA
EXP-CE
EXP-SCL
LED-DATA-IN
LED-CLK
LED-STB
MODE-SW-UP
AL-CE
NV-RAM-CTL
AL-DATA
V-CLOCK
MUTE
XT601
32.768KHz
XT602
8MHz
L603
100UH
L605
100UH
L606
100UH
D692
1N4002
D620
1N4002
D603
1N4148
D605
1N4148
D606
1N4148
D607
1N4148
D608
1N4148
R630
10K
R631
1K
R640
10K
R642
470
R643
1K
R644
1K
R641
470
R678
22K
R679
220
R682
22K
R691
22K
R670
4.7K
R671
4.7K
R672
4.7K
R677
22K
R676
30K
R675
180(1/4W)
R674
10K
R673
1K
R657
68K/F
R660
47K
R661
33K
R698
10K
R617
1M
R608
56K
R609
56K
R610
100
R612
100
R613
1K
R614
1K
R615
1K
R669
470
R668
470
R667
10K
R666
10K
R651
68K
R652
27
R693
47K
R694
47K
R686
27K
R685
5.6K
C695
150PF
C691
10NF
C623
10NF
C501
22NF
C602
47/16V
C697
47/16V
C698
10NF
C618
100/50V
C619
10NF
C606
10NF
C607
1000/10V
C608
0.1/5.5
C605
10NF
C610
100NF
C688
47/16V
C625
22PF
C624
22PF
C626
22PF
C627
22PF
C661
47NF
C659
68NF
C645
150PF
C596
220NF
C637
470PF
C635
2.2NF
C636
2.2NF
C632
33NF
C640
47/16V
C641
100/16V
C639
150P
C638
47/25
C634
10NF
C633
10NF
C646
100NF
Q601
R1004
Q602
C945
L6001
GL381
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW11
SW12
SW13
SW14
SW15
SW16
SW17
SW18
SW19
SW20
SW21
SW22
SW23
SW24
SW25
SW26
SW27
SW28
SW29
SW30
SW31
SW32
SW33
SW34
SW35
SW36
SW37
SW38
SW39
SW40

6-7 A/V


IC301
LA71750M
MULTI:LA71730M
FROM/TO SYSCON/SERVO
FROM/TO OSC/PDC/VPS OR OSD
FROM/TO SECAM
FROM/TO HIFI
FROM/TO I/O
CN301
DRUM WAFER
FROM POWER
CN3402
TO F/E HEAD
CN3401
FROM/TO A/C HEAD
SQPB OPT
F/ERASE
A DUBBING OPTION
A/V OUT ONLY
DUB ONLY
SECAM OPT
MULTI OPTION
MONO A IN
C.D L2B0904-95
XT301 4.43619MHZ
XT302 3.5795454HZ

6-8 Hi-Fi



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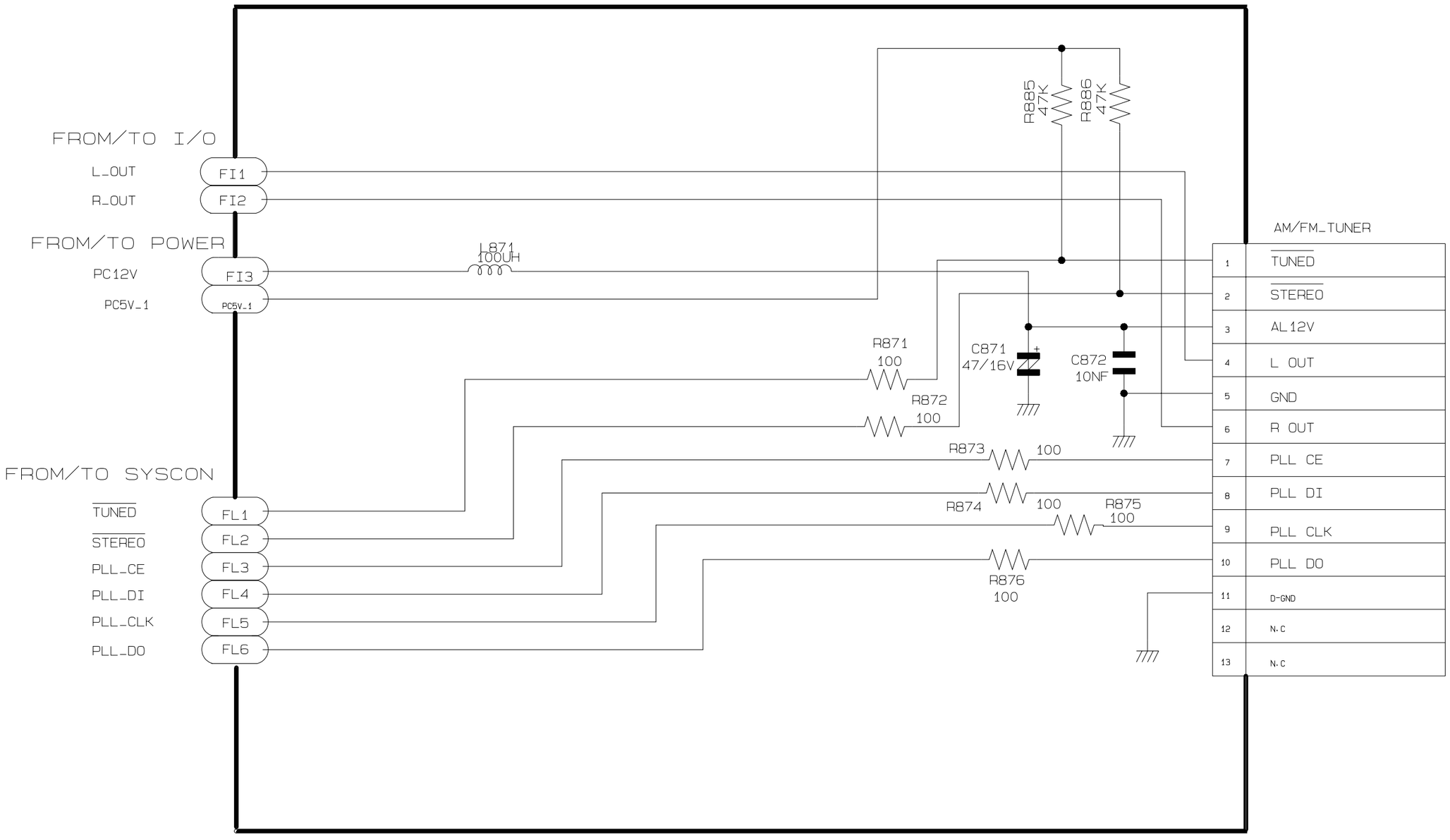
6-9 AM/FM Receiver



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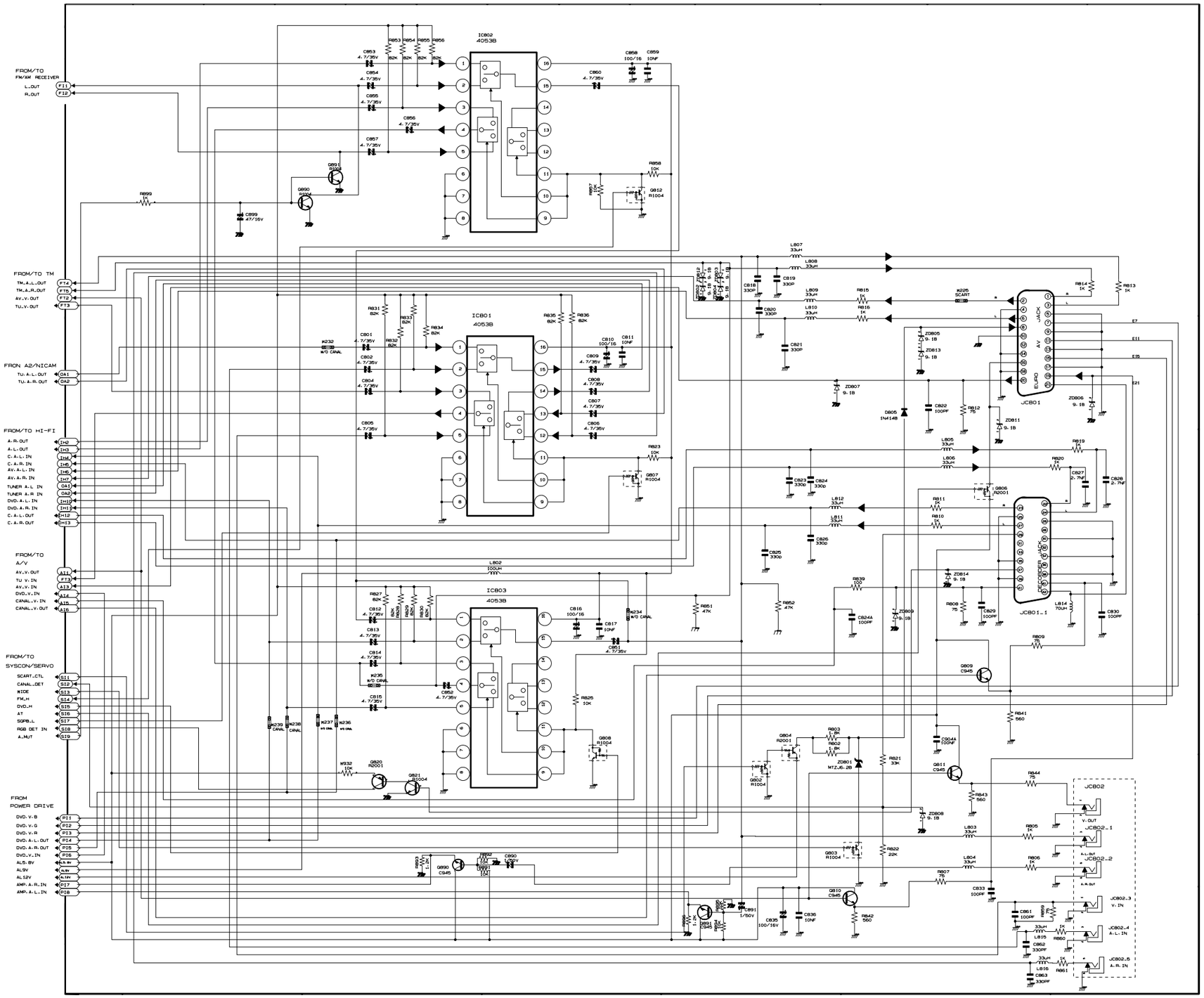
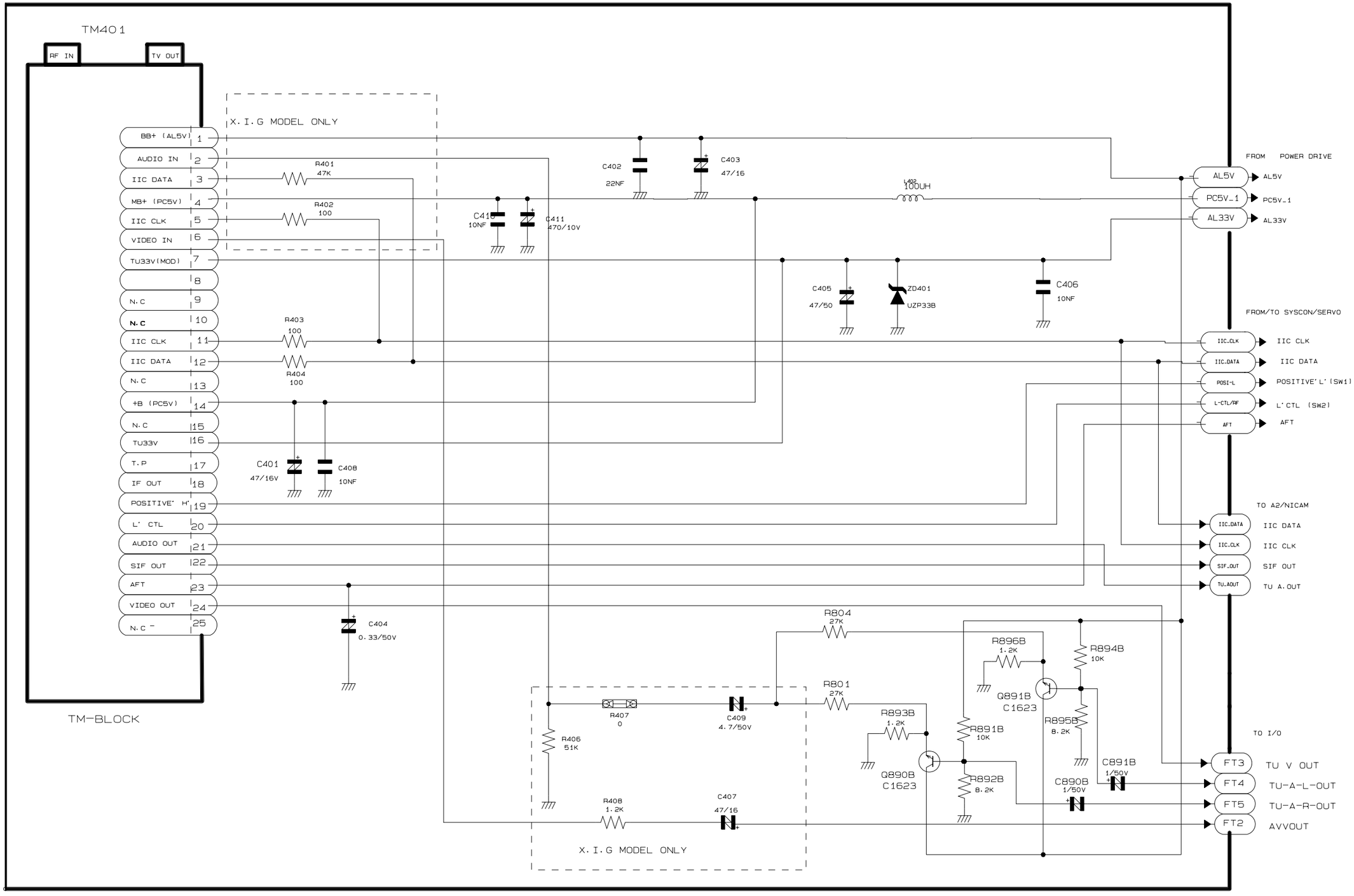
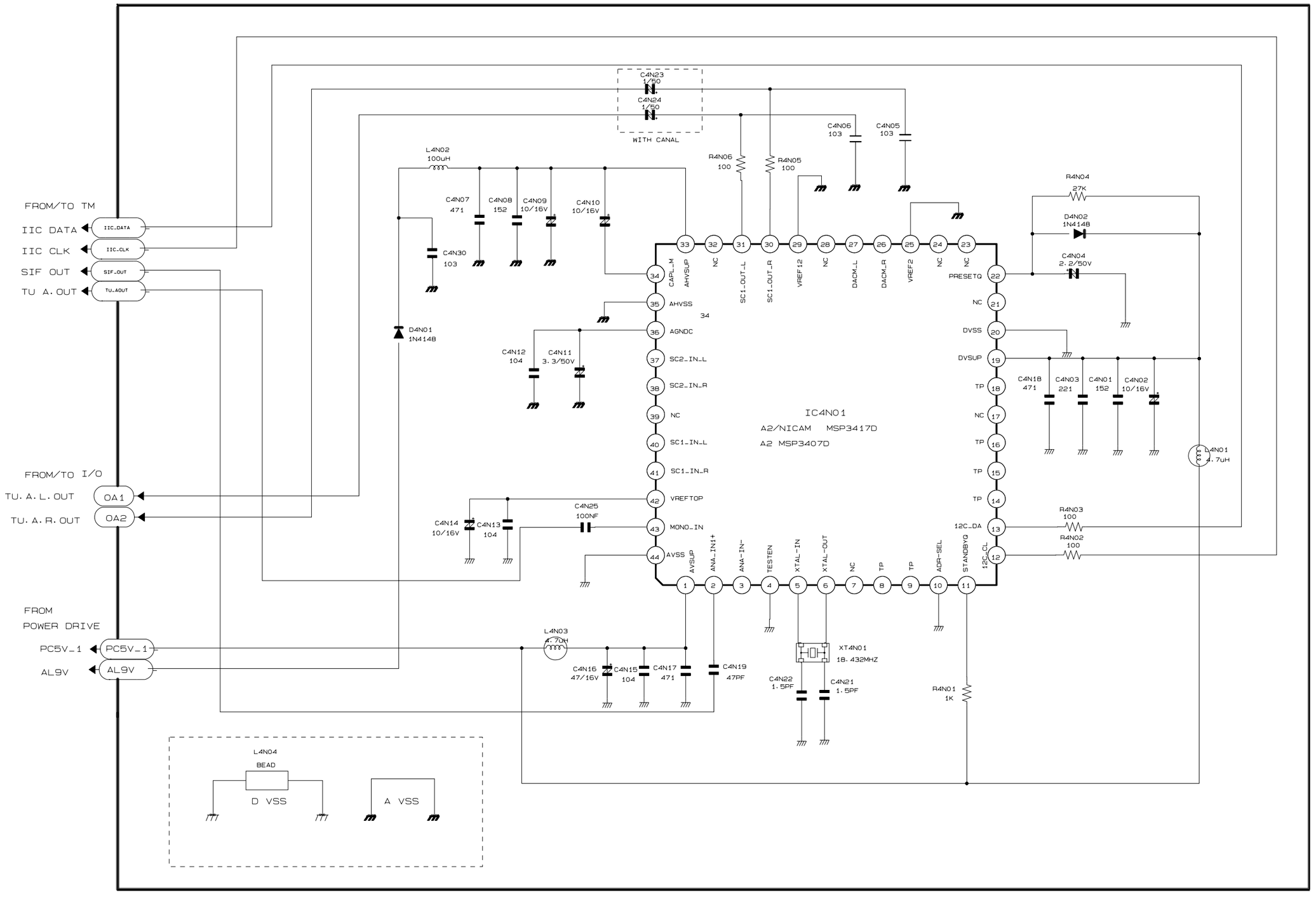
6-10 Input-Output



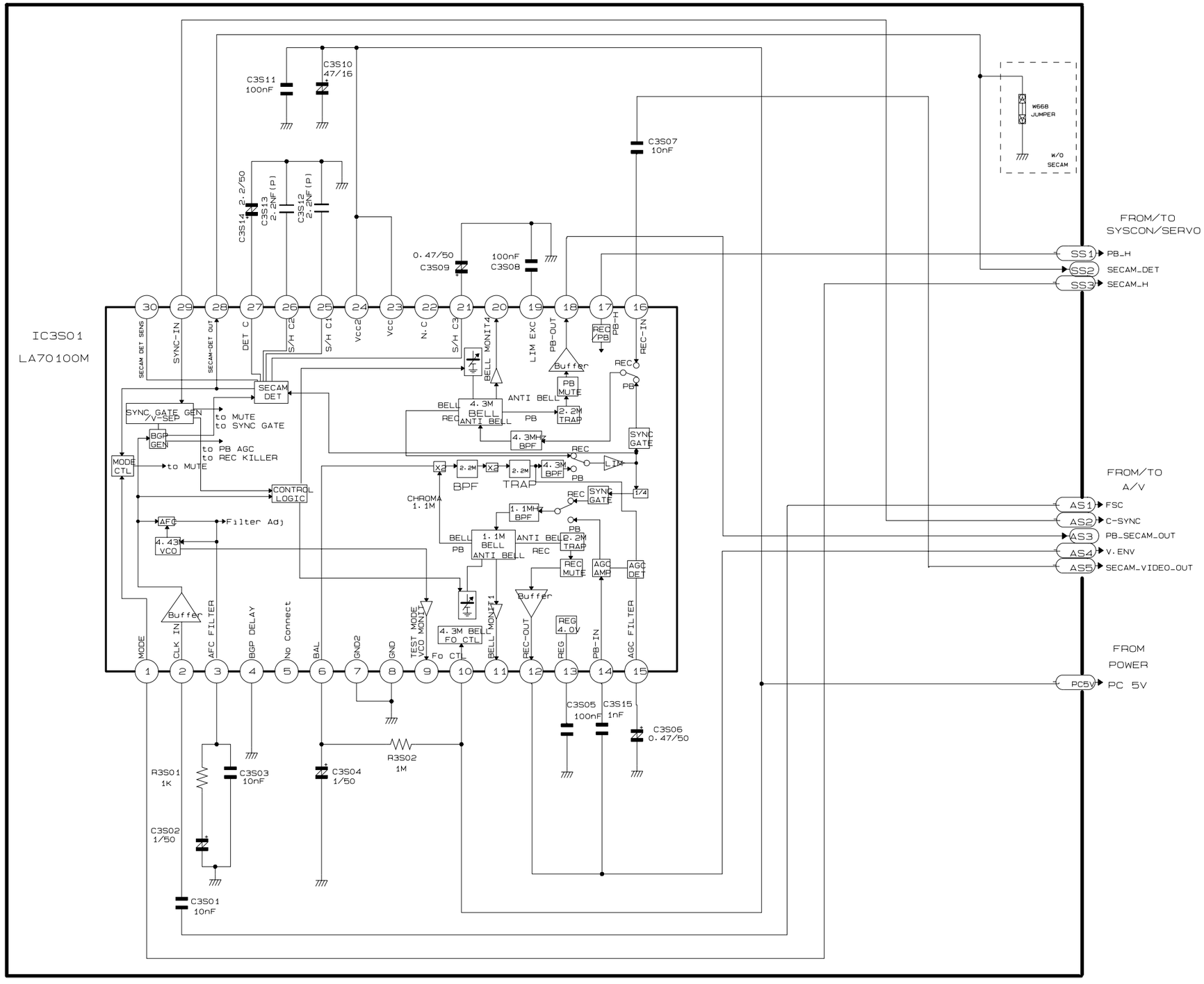
6-11 TM


TM401
RF IN
TV OUT
X.I.G MODEL ONLY
BB+ (AL5V) 1
AUDIO IN 2
IIC DATA 3
MB+ (PC5V) 4
IIC CLK 5
VIDEO IN 6
TU33V(MOD) 7
8
N.C 9
N.C 10
IIC CLK 11
IIC DATA 12
N.C 13
+B (PC5V) 14
N.C 15
TU33V 16
T.P 17
IF OUT 18
POSITIVE' H' 19
L' CTL 20
AUDIO OUT 21
SIF OUT 22
AFT 23
VIDEO OUT 24
N.C 25
TM-BLOCK
R401 47K
R402 100
R403 100
R404 100
C401 47/16V
C408 10NF
C404 0.33/50V
C410 10NF
C411 470/10V
C402 22NF
C403 47/16
L402 100UH
C405 47/50
ZD401 UZP33B
C406 10NF
R407 0
C409 4.7/50V
R406 51K
R408 1.2K
C407 47/16
X.I.G MODEL ONLY
R804 27K
R801 27K
R896B 1.2K
R894B 10K
Q891B C1623
R895B 8.2K
R893B 1.2K
R891B 10K
Q890B C1623
R892B 8.2K
C891B 1/50V
C890B 1/50V
FROM POWER DRIVE
AL5V
PC5V_1
AL33V
AL5V
PC5V_1
AL33V
FROM/TO SYSCON/SERVO
IIC_CLK
IIC_DATA
POSI-L
L-CTL/RF
AFT
IIC CLK
IIC DATA
POSITIVE' L' (SW1)
L' CTL (SW2)
AFT
TO A2/NICAM
IIC_DATA
IIC_CLK
SIF_OUT
TU_AOUT
IIC DATA
IIC CLK
SIF OUT
TU A.OUT
TO I/O
FT3
FT4
FT5
FT2
TU V OUT
TU-A-L-OUT
TU-A-R-OUT
AVVOUT

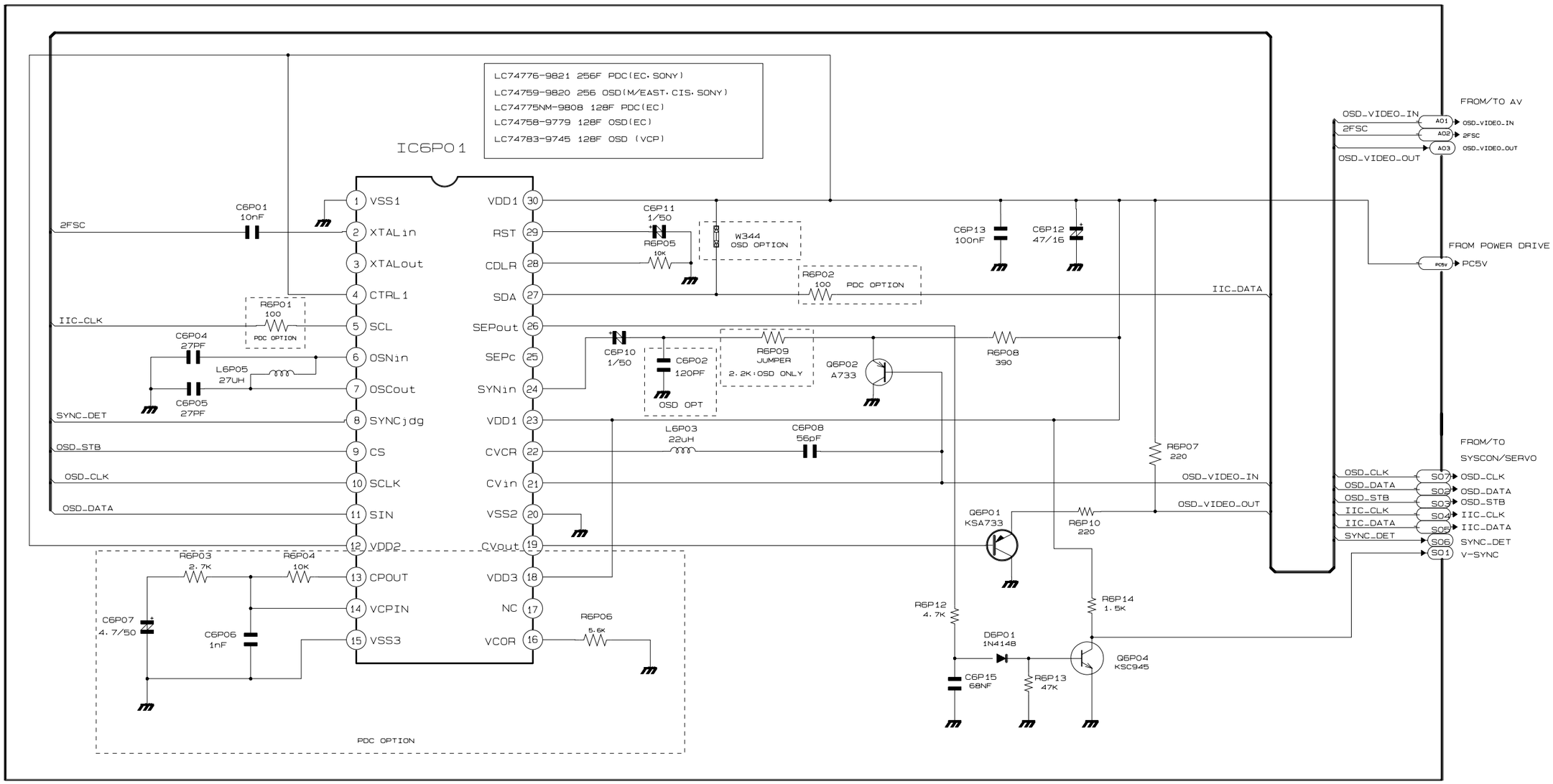
6-12 A2/NICAM


FROM/TO TM
IIC DATA
IIC CLK
SIF OUT
TU A.OUT
IIC_DATA
IIC_CLK
SIF_OUT
TU_AOUT
FROM/TO I/O
TU. A. L. OUT
TU. A. R. OUT
OA1
OA2
FROM
POWER DRIVE
PC5V_1
AL9V
PC5V_1
AL9V
C4N23
1/50
C4N24
1/50
WITH CANAL
C4N06
103
C4N05
103
L4N02
100uH
R4N06
100
R4N05
100
R4N04
27K
D4N02
1N4148
C4N04
2.2/50V
C4N07
471
C4N08
152
C4N09
10/16V
C4N10
10/16V
C4N30
103
D4N01
1N4148
C4N12
104
C4N11
3.3/50V
C4N14
10/16V
C4N13
104
C4N25
100NF
L4N03
4.7uH
C4N16
47/16V
C4N15
104
C4N17
471
C4N19
47PF
XT4N01
18.432MHZ
C4N22
1.5PF
C4N21
1.5PF
R4N01
1K
C4N18
471
C4N03
221
C4N01
152
C4N02
10/16V
L4N01
4.7uH
R4N03
100
R4N02
100
IC4N01
A2/NICAM MSP3417D
A2 MSP3407D
33 CAPL_M
32 AHVSUP
31 NC
30 SC1_OUT_L
29 SC1_OUT_R
28 VREF12
27 NC
26 DACM_L
25 DACM_R
24 VREF2
23 NC
22 NC
PRESETQ
34 AHVSS
35 AGNDC
36 SC2_IN_L
37 SC2_IN_R
38 NC
39 SC1_IN_L
40 SC1_IN_R
41 VREFTOP
42 MONO_IN
43 AVSS
44 AVSUP
1 ANA_IN1+
2 ANA_IN-
3 TESTEN
4 XTAL_IN
5 XTAL_OUT
6 NC
7 TP
8 TP
9 ADR_SEL
10 STANDBYQ
11 I2C_CL
12 I2C_DA
13 TP
14 TP
15 TP
16 TP
17 NC
18 TP
19 DVSUP
20 DVSS
21 NC
L4N04
BEAD
D VSS
A VSS

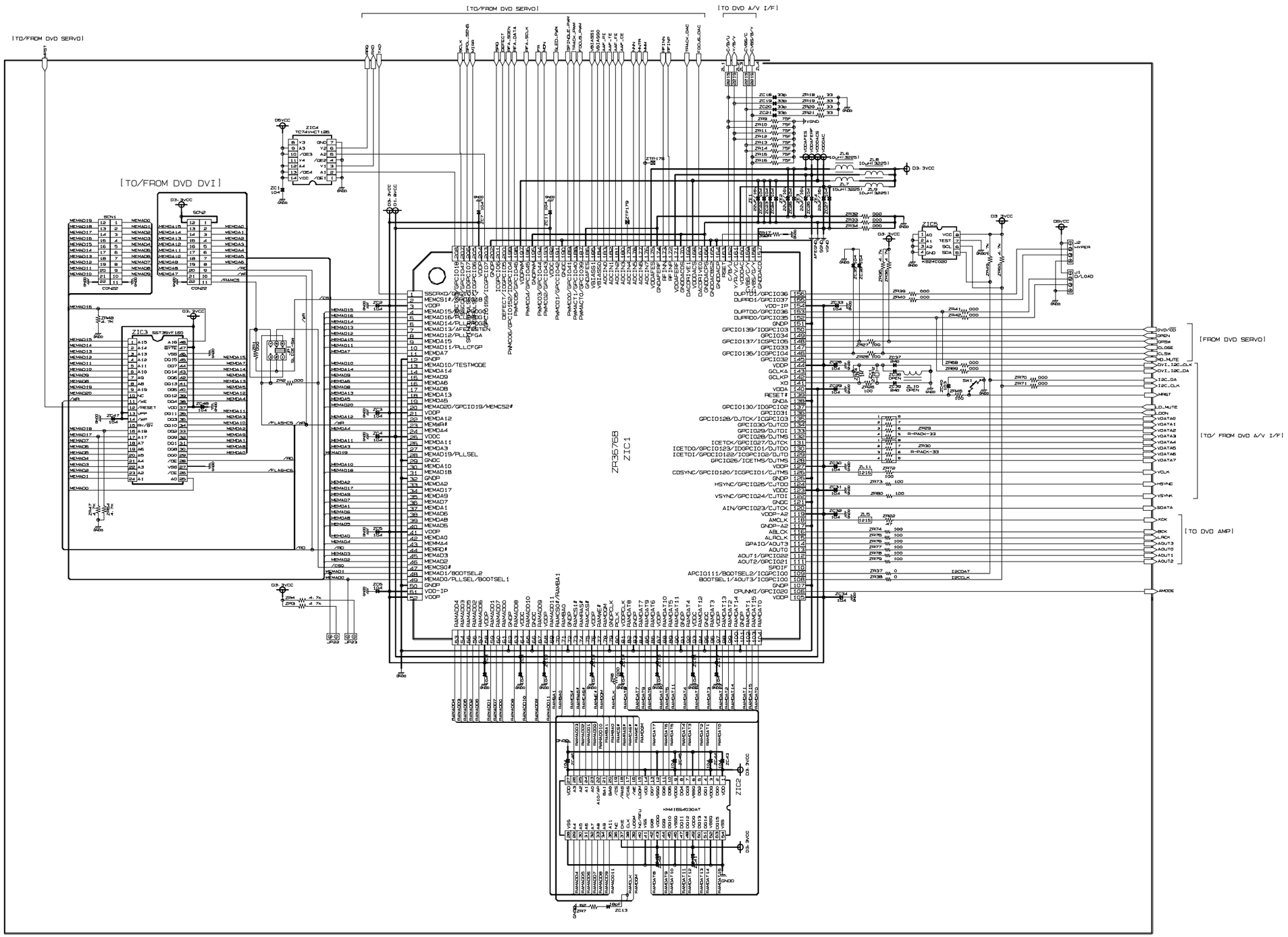
6-13 SECAM


IC3S01
LA70100M
C3S11 100nF
C3S10 47/16
C3S07 10nF
C3S14 2.2/50
C3S13 2.2NF(P)
C3S12 2.2NF(P)
0.47/50 C3S09
100nF C3S08
W668 JUMPER
W/O SECAM
FROM/TO SYSCON/SERVO
SS1 PB_H
SS2 SECAM_DET
SS3 SECAM_H
FROM/TO A/V
AS1 FSC
AS2 C-SYNC
AS3 PB_SECAM_OUT
AS4 V.ENV
AS5 SECAM_VIDEO_OUT
FROM POWER
PC5V PC 5V
SECAM DET SENS
SYNC-IN
SECAM-DET OUT
DET C
S/H C2
S/H C1
Vcc2
Vcc
N.C
S/H C3
BELL MONITA
LIM EXC
PB-OUT
REC PB
PB-H
REC-IN
SECAM DET
SYNC GATE GEN /V-SEP
BGP GEN
MODE CTL
to MUTE
to SYNC GATE
to PB AGC
to REC KILLER
CONTROL LOGIC
AFC
Filter Adj
4.43 VCO
Buffer
REC
PB
PB MUTE
BELL
ANTI BELL
4.3M BELL
2.2M TRAP
4.3MHz BPF
SYNC GATE
LIM
X2
2.2M
4.3M BPF
BPF
TRAP
CHROMA 1.1M
1/4
1.1MHz BPF
1.1M BELL
REC MUTE
AGC AMP
AGC DET
4.3M BELL FO CTL
REC-OUT
REG 4.0V
PB-IN
AGC FILTER
MODE
CLK IN
AFC FILTER
BGP DELAY
No Connect
BAL
GND2
GND
TEST MODE VCO MONIT
Fo CTL
BELL MONIT
REG
C3S05 100nF
C3S15 1nF
C3S06 0.47/50
R3S02 1M
R3S01 1K
C3S03 10nF
C3S04 1/50
C3S02 1/50
C3S01 10nF

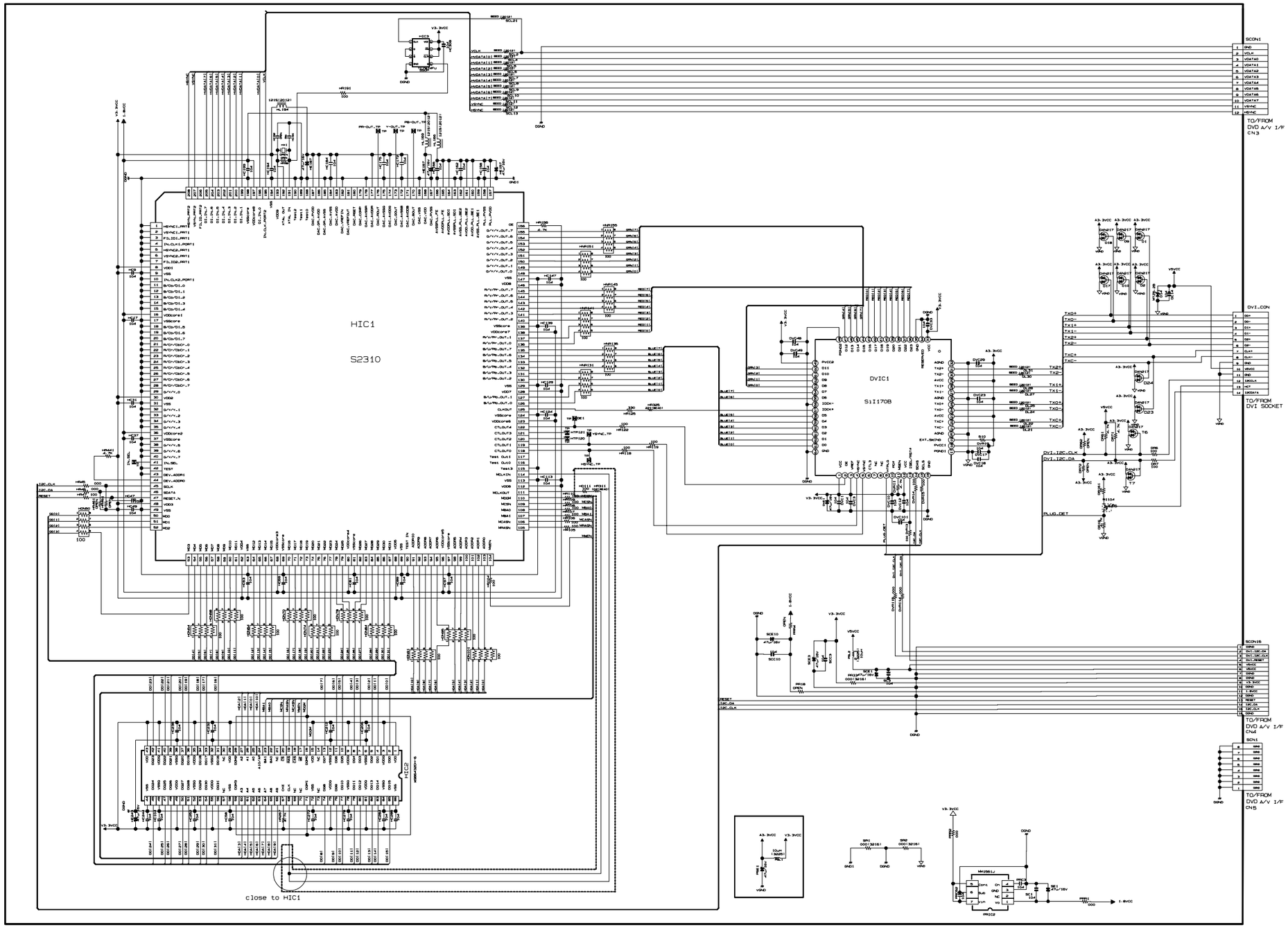
6-14 OSD/VPS/PDC



6-15 DVD Micom



6-16 DVD DVI (CHT-600 Only)



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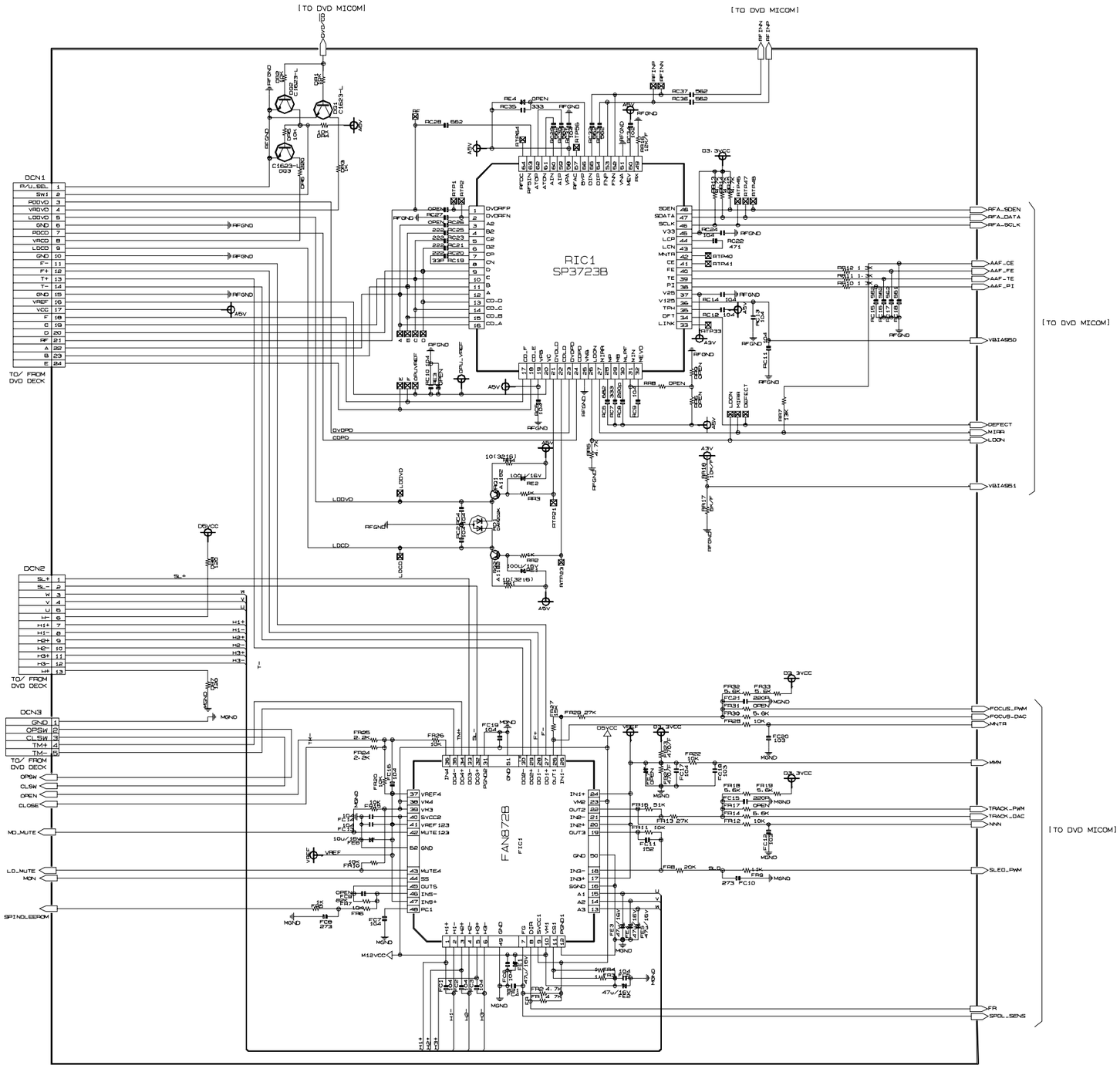
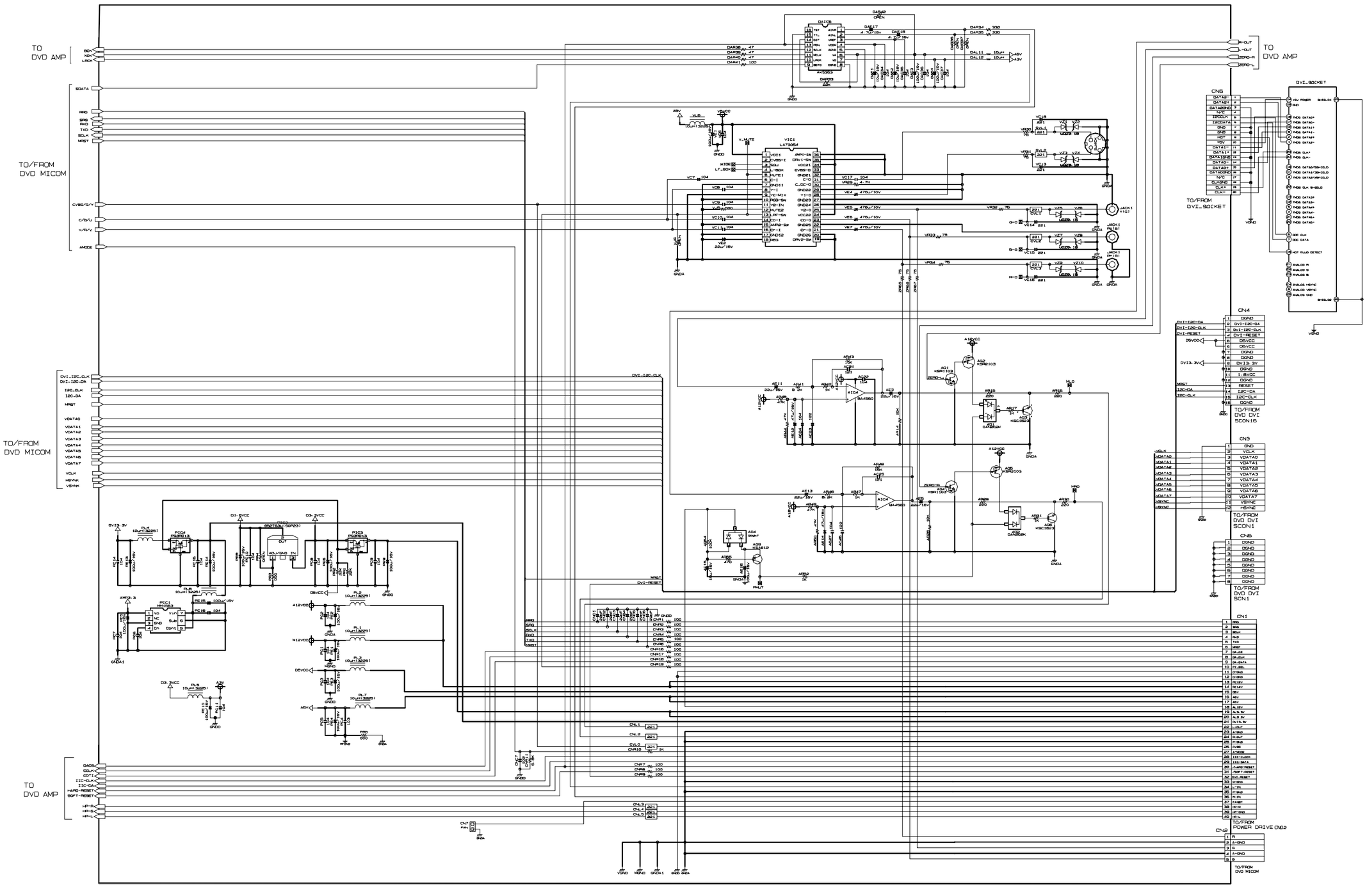
6-17 DVD Servo



6-18 DVD Audio/Video Interface



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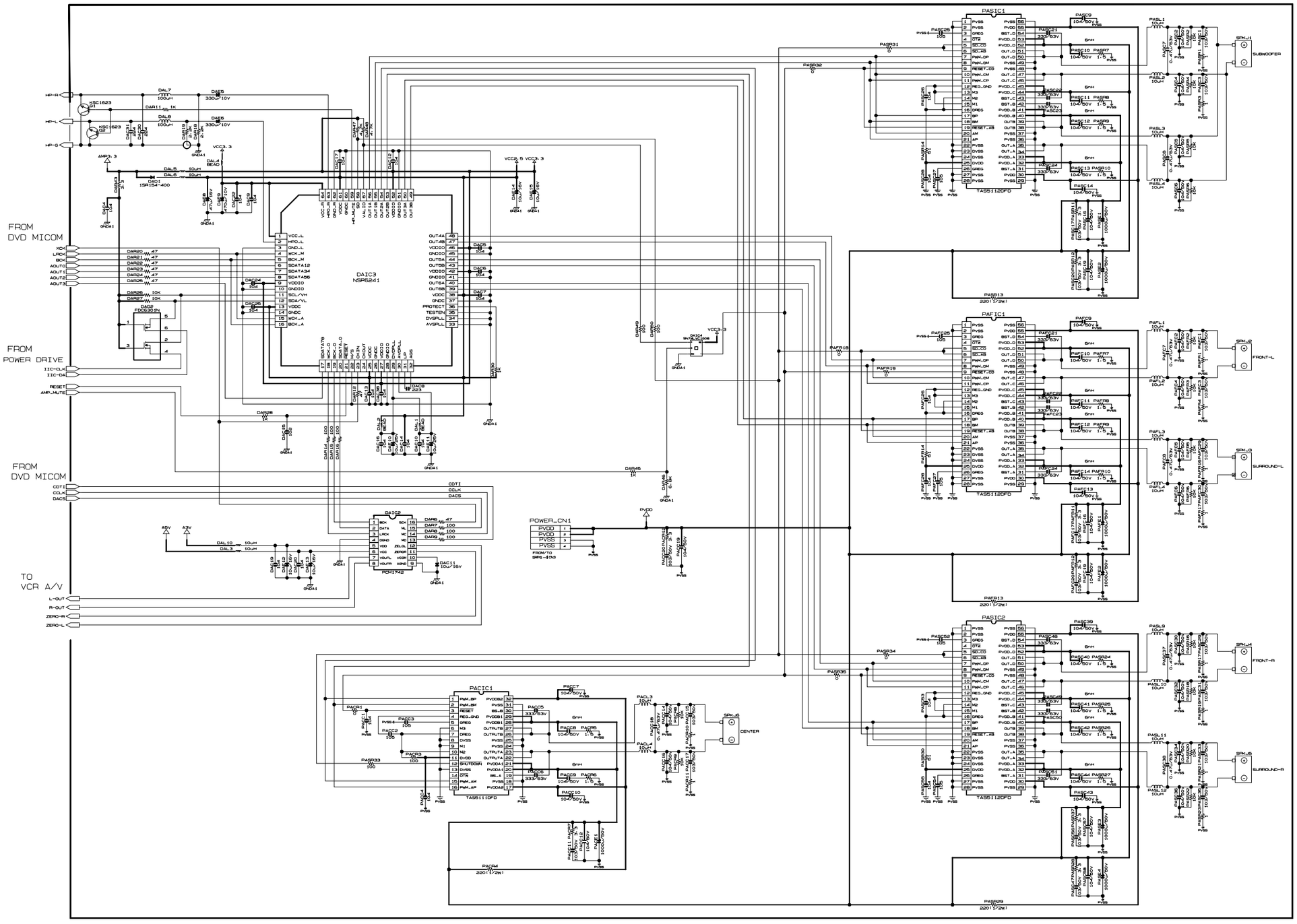
6-19 Digital Amp



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